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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,203	09/12/2003	Larry W. Smith	1065	9110

7590 08/12/2005
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EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/662,203

Applicant(s)

SMITH, LARRY W.

Examiner

Jennifer H. Gay

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 9, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (US 6,516,877).

Regarding claim 1: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** removably engaging each other and at least one spacer lug **20** slidably and removably engaging each of the subunits (Figure 4).

Regarding claim 2: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claim 9: The flange groove and lug flange are dovetailed with the lug flange having wings and a lug blade extending between the wings.

Regarding claim 22: Terry further discloses the method for using that above centralizer where the method involves providing the above parts, assembling the centralizer on a tubing string, and lowering the tubing string and centralizer into the wellbore.

3. Claims 1, 2, 9, 13, 14, 17, and 22-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Mundt (US 3,292,708).

Regarding claim 1: Mundt discloses a multi-unit centralizer that includes a centralizer hub with a plurality of hub subunits **11**, **11a** removably engaging each other and at least one spacer lug **13** that is slidably and removably engaged with each subunit.

Regarding claim 2: The hub includes at least one flange groove **17** on each subunit and the lugs include a flange **22** that slidably engages the groove.

Regarding claims 9, 14: As seen in Figure 4, the flange groove and lug flange are dovetailed with the lug flange having wings and a lug blade extending between the wings.

Regarding claims 13, 17, 22-26: The lugs can all be of differing radial dimensions (2:40-45). When assembling the centralizer, lugs of different lengths can be chosen.

Regarding claim 22: Mundt discloses a method for positioning tubing in a wellbore using the above centralizer. The method involves providing the centralizer with the lugs positioned therein around the tubing and lowering the tubing and centralizer into the wellbore.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-8, 10-12, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Evans (US 3,963,075).

Regarding claims 3, 10: Terry discloses all of the limitations of the above claims except for the centralizer including at least one clamp that is removably engaged with the subunits and the lugs to secure the assembly.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**.

Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claims 4, 6, 19: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claims 5, 7, 10, 11: The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs.

Regarding claim 18: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** slidably and removably engaging each other and at least one spacer lug **20** removably engaging each of the subunits (Figure 4).

Terry discloses all of the limitations of the above claims except for the subunits include clamp grooves, the lugs including clamp slots, and at least one band clamp being removably seated in the grooves and extending through the slots.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

6. Claims 13, 14, 17, and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Tighe (US 4,076,084).

Regarding claim 13: Terry discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **12a**, **12b** that are all removably engaging each other and a plurality of spacer lug **20** slidably and removably and interchangeably engaging each of the subunits (Figure 4) where the lugs have an attachment edge that engages the subunits and an outer edge spaced from the attachment edge thus defining a radial dimension.

Terry discloses all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claim 14: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claims 17, 24: The spacer lugs of Tighe include three different radial lengths.

Regarding claim 23: Terry discloses all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claims 25, 26: Though not specifically disclosed by Tighe, the examiner takes Official Notice that it would be considered well known to choose the three different disclosed spacer lugs from different sets based upon the needs of the operator such as degree of deviation of the wellbore.

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Tighe as applied to claim 13 above, and further in view of Evans.

Regarding claim 15: Terry and Tighe disclose all of the limitations of the above claims except for the centralizer including at least one clamp that is removably engaged with the subunits and the lugs to secure the assembly.

Evans discloses a centralizer similar to that of Terry. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry in view of Tighe to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claim 16: The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs.

8. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry in view of Evans as applied to claim 18 above, and further in view of Tighe.

Regarding claim 20: Terry and Evans disclose all of the limitations of the above claims except for the lugs having a first set having a first radial dimension and a second set having second radial dimension smaller than the first.

Tighe discloses a wellbore tool that is designed to position a drill bit in a desired orientation in the wellbore. Tighe further teaches using a device that includes a plurality of spacer lugs of different radial dimensions (Figures 3 and 4).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Terry in view of Evans to include spacer lugs of differing radial dimensions in order to have been able to orient a down hole tool in certain direction such as in a horizontal or deviated wellbore.

Regarding claim 21: The spacer lugs of Tighe include three different radial lengths.

9. Claims 3-8, 10-12, 15, 16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mundt in view of Evans.

Regarding claims 3, 10, 15: Mundt discloses all of the limitations of the above claims except for the centralizer including at least one clamp that is removably engaged with the subunits and the lugs to secure the assembly.

Evans discloses a centralizer similar to that of Mundt. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Mundt to include the clamps taught by Evans in order to have provided a means for not only securing the centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claims 4, 6, 19: Each of the subunits includes at least one flange groove and each of the spacer lugs includes a lug flange that slidably engages the flange groove (Figures 1 and 2).

Regarding claims 5, 7, 10, 11, 16: The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs.

Regarding claim 18: Mundt discloses a multi-unit centralizer that includes a centralizer hub having a plurality of hub subunits **11**, **11a** slidably and removably engaging each other and at least one spacer lug **13** removably engaging each of the subunits (Figure 4).

Mundt discloses all of the limitations of the above claims except for the subunits include clamp grooves, the lugs including clamp slots, and at least one band clamp being removably seated in the grooves and extending through the slots.

Evans discloses a centralizer similar to that of Mundt. Evans further teaches extending a plurality of clamps **24** through a centralizer unit **20** and spacer lugs **40**. The clamps of Evans are positioned in clamp grooves formed in the unit and clamp slots formed in the lugs as shown in Figure 3 where it is shown that the clamps are seated in the clamp groove in the unit and extend through the clamp slot in the lugs. Though it is not specifically disclosed that the clamps are removable, the clamps could be forcibly removed by a variety of means thus are considered to be removable.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the centralizer of Mundt to include the clamps taught by Evans in order to have provided a means for not only securing the

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centralizer to the tubing but also ensuring that the spacer lugs were not forced from the grooves into which they were placed by a frictional build up between the lugs and the wellbore wall.

Regarding claims 20, 21: The lugs can all be of differing radial dimensions (2:40-45). When assembling the centralizer, lugs of different lengths can be chosen.

Response to Arguments

10. Applicant's arguments filed 5 July 2005 have been fully considered but they are not persuasive.

Applicant has argued that Terry does not teach a multi-unit centralizer that has at least on spacer lug that is slidably and removably engaged with each of a plurality of subunits.

Applicant has specifically argued that the lugs taught by Terry cannot be removable because they are affixed to the subunits by deforming the metal of the lug. While the examiner acknowledges that the lugs are affixed to the subunits by deforming the metal of the lugs, this does not indicate that the lugs are not removable. The connection between the lugs and the subunits is not considered to be permanent. Further, any element can be considered to be removable from another feature.

Applicant has further argued that the lugs taught by Terry cannot be slidably engaged with the subunits because they are the same length as the grooves into which they are placed thus must be aligned with and inserted directly into the groove. Again, while the examiner acknowledges that this is indeed how the lugs are placed into their respective grooves, applicant has not indicated how the lugs are slidably engaged. Slidably engaged incorporates sliding longitudinally, horizontally, and sliding each end of the lug into the groove separately; the lugs are slid into their respective grooves this fashion.

The examiner would like to note that, while the rejection presented in the previous Office Action is still considered to be valid, the rejection of the claims over Mundt has been provided as it shows a different degree of the lugs sliding relative to the subunits.

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With respect to applicant's argument that Terry does not show at least one clamp groove or lugs of differing radial dimensions, it is noted that applicant is arguing the Terry references as if it had been applied under 35 USC 102 for the claims that include these limitations instead of 35 USC 103. The Evans and Tighe references have been combined with Terry to teach the above features.

With respect to applicant's argument that Evans and Tighe do not teach at least on spacer lug that is slidably and removably engaged with each of a plurality of subunits, the examiner notes that it has not been indicated that these references do teach this feature. Evans was used to teach a clamp groove and Tighe was used to teach lugs of differing radial dimensions. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

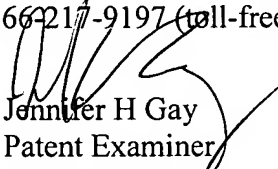
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

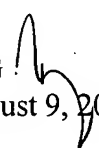
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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H. Gay whose telephone number is (571) 272-7029. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer H Gay
Patent Examiner
Art Unit 3672

JHG 
August 9, 2005